VAYNSHTEYN, B. A.

158T9

USSR/Biology - Forests
Insects

Jan 50

"Variations in Composition of the Population of Forest Pests Under the Influence of Silvi-Ecological Factors," B. A. Vaynshteyn, Ukrainian Sci Res Inst of Agr, Forest Development, and Forest Econ, Khar'kov, 3½ pp

"Dok Ak Nauk SSSR" Vol LXX, No 3

Studies effect of various factors on population of leaf beetles of oak trees in field protection plantings in southern Ukrainian SSR at 15 collection points. Finds age of growth to have most effect and, in diminishing order, types of trees,

USSR/Biology - Forests (Contd) Jan 50

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density, and favorable conditions. With increased density, age, and favorable conditions mesophylic types increase and number of types and total population of xerophile types decrease. Includes three tables. Submitted 18 Jun 49.

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VAYNSHTEIN, B. A., Author

Vaynshteyn, B. A.

"Entomological fauna of oak leaf pests in shelter-belts in southern areas of the Ukranian SSR and its relation to forest ecological factors." Reviewed by Bey-Biyenko. Ent. ob. 31, No. 3, 1951.

9. Monthly List of Russian Accessions, Library of Congress, September 1953. Unclassified.

VAYNSHTEYN, B.A.

Spider mites which damage fruit crops of southern Kazakhstan.
Zool.zhur. 33 no.3:561-564 My-Je '54. (MLRA 7:7)

1. Yuzhnyy filial Respublikanskoy STAZR Kazakhskogo filiala VASKhNIL (Chimkent)
(Kazakhstan--Red spider) (Red spider--Kazakhstan)

VAYNSHTEYN, B.A.

Seasonal dynamics of the acorn weevil. Zool.zhur.33 no.6: 1271-1276 N-D '54. (MLRA 8:2)

1. Ukrainskiy nauchno-issledovatel'skiy institut lesnogo khozyaystva i agrolesomelioratsii.
(Weevils)(Acorns--Diseases and pests)

USSR/General and Special Zoology - Insects.

Abs Jour : Ref Zhur - Biol., No 5, 1958, 21082

Author : Vaynshtein. B.A.
Inst :
Title : Systematic Status of the Garden Tick in Alma -Ata.

Orig Pub : Tr. Resp. st. zashchity rast. Kasakhsk. fil. VASKHNIL, 1956, 3, 57-69.

Abstract : The Alma-ata garden tick (Tetranychidae) which infected the fruit plants in Kazakhstan was identical with Schizotetranychus pruni. Experiments in transplanting the tick on various species of plants showed that this tick was polyphagous. The variability in some of its basic diagnostic properties duplicated the differences in a few Georgian species, Schizotetranychus pruni was found distributed in South Kazakhstan, Alma-ata and East Kazakhstan as well as in Georgia and Western Europe; it was known by synonyms such as Sch. aceri Sch. viticola, Sch. ulmicola, Sch.

Card 1/2

USSR/General and Special Zoology. Insects P

Abs Jour : Ref Zhur - Biol., No 6, 1958, No 25640

Author : Vainshtein B.A.
Inst : Not Given
Title : Materials to the Knowledge of Dazakhstan Ticks. (Materialy k poznaniyu khrushchei Kazakhstana.)

Orig Pub : Tr. Resp. st. zashchity rast. Kazakhsk. fil. VASKhNIL, 1956, 3, 84-93.

Abstract : A description was given of a new species Hoplia medvedevi and the larvae of: Hoplia angulata Rtt., Hemictenius lebedevi Rtt., Leucoserica arenicola (Solsky), Phaeadoretus comptus Men. and Epadoretus reitteri Sem. Data on the location of 8 tick species was appended.

Card : 1/1

USSR/General and Special Zoology - Insects. I-9

Abs Jour : Ref Zhur - Biol., No 5, 1958, 21131

Author : Vaynshteyn, B. A.
Inst : -
Title : Cobweb Ticks and Their Control.

Orig Pub : S. kh. Kazakhstana, 1956, No 10, 54-55

Abstract : Considerable one-year damage of the raspberry plant by the cobweb ticks led to the loss of the crop for three years. The following measures were to be taken in the control of the tick in berry gardens (especially on raspberry): the use of rich mineral fertilizers and feeding materials; treatment with a 1% solution of colloidal sulphur or a 1% suspension of ground sulphur after collecting the crop, at the opening of the leaves, and immediately after the discovery of the pests. It is necessary to add sulphur to DDT, because DDT, while it is harmless to ticks kills acariphagi, especially the stetorus beettle and the triphleps bug.

Card 1/1

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VAYNSHTEYN, B.A.

On the tetranychid mites in Southern Kazakhstan [with English summary in insert]. Zool.zhur.35 no.3:384-391 Mr '56.(MLRA 9:7)

1.Respublikanskaya stantsiya zashchity rasteniy Kazakhskogo filiala Vsesoyuznoy Akademii sel'skokhozyaystvennykh nauk imeni Lenina.
(Kazakhstan--Red spider)

VAYNSHTEYN, B.A.

The chaetome and the segmental composition of the body in tetranychoid mites [with English summary in insert]. Zool. zhur. 35 no.5: 691-699 My '56. (MIRA 9:9)

1. Respublikanskaya stantsiya zashchity rasteniy Kazakhskogo filiala Vsesoyuznoy Akademii sel'skokhozyaystvennykh nauk imeni Lenina. (Mites)

VAYNSHTEYN, B.A.

New finding on tetranychoid mites in southern Kazakhstan [with English summary in insert]. Zool.zhur.35 no.8:1146-1151 Ag '56. (MLRA 9:10)

1.Respublikanskaya stantsiya zashchity rasteniy Kazakhskogo filiala Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni Lenina.
(Kazakhstan--Red spider)

VAYNSHTEYN, B.A.

AUTHOR: Vaynshteyn, B.A., and Slivkina, K.A. 26-10-30/44

TITLE: On Measuring the Protective Properties of Toxic Chemicals (O mere zashchitnykh svoystv yadokhimikatov)

PERIODICAL: Priroda, 1957, No 10, pp 112-113 (USSR)

ABSTRACT: To protect seedlings and young growth from root destroying pests, their seeds or roots are first dusted with DDT or moistened with some toxic substance. The efficiency of the chemicals used is determined by the number of plants damaged by insects. The authors suggest that for exact measurement of the protective properties of such chemicals the "specific damage" be used, i.e., the relation of the percentage of damaged plants to the density of insects (density meaning the number of insects per 1 sq m). Table 1 indicates damage caused to plants in relation to the protective function of the chemicals used, as developed by the authors.

ASSOCIATION: Republic Station for the Protection of Plants (Alma-Ata) (Respublikanskaya stantsiya zashchity rasteniy (Alma-Ata))

AVAILABLE: Library of Congress

Card 1/1

VAYNSHTEYN, B.A.

New species of Typhlodromus (Parasitiformes, Phytoseiidae) from Georgia. Soob.AN Gruz.SSR 21 no.2:201-207 Ag '58. (MIRA 12:6)

1. AN SSSR, Institut biologii vodokhranilishch, Borok. Predstavleno chlenom-korrespondentom Akademii L.P.Kalandadze.
(Georgia--Mites)

VAYNSHTEYN, B.A.

Materials on the fauna and systematics of spider mites(Acariformes, Tetranychoides). Ent. obozr. 37 no. 2:455-459 '58. [pp. 455, 458, 459 wanting]. (MIRA 11:7)

(Red spider)

VAYNSHTEYN, B.A.

Chetae of the extremities of spider mites (Acariformes, Tetranychidae) and systematics of the family [with summary in English] Zool.zhur. 37 no.10:1476-1487 O '58. (MIRA 11:11)

1. Respublikanskaya stantsiy zashchity rasteniy Kazakhskogo filiala Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni Lenina (Alma-Ata).

(Red spider)

VAYNSHTEYN, B.A.

New subgenus and species of the genus Phytoseius Ribaga, 1902 (Phytoseiidae, Parasitiformes). Zool.zhur. 38 no.9:1361-1365 S '59. (MIRA 13:1)

1. Respublikanskaya stantsiya zashchity rastoniy Kazakhskogo filiala Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I.Lenina.
(Mites)

VAYNSHTEYN, B.A.; OSTROVSKAYA, Ye.N.

Species of forest nursery insect pests inhabiting soils in the Ukraine [with summary in English]. Ent. oboz. 38 no.2:341-347 '59. (MIRA 12:7)

1.Ukrainskiy nauchno-issledovatel'skiy institut lesnogo khozyaystva i agrolesomelioratsii, Khar'kov.
(Ukraine--Insects, Injurious and beneficial)
(Soil fauna)
(Forest nurseries--Diseases and pests)

VAYNSHTEYN, B.A.

A revision of the tribe Petrobiini (Reck) (Acariformes, Tetranychidae) [with summary in English]. Ent. oboz. 39 no.1:214-226 '60. (MIRA 13:6)

1. Institut biologii vodokhranilishch Akademii nauk SSSR, Borok, Yaroslavskoy oblasti.
(Red spider)

VAYNSHTEYN, B.A.

Criteria of taxonomic categories. Zool. zhur. 39 no.12:1774-1778 '60. (MIRA 14:1)

1. Reservoir Biology Institute of the Academy of Sciences of the U.S.S.R., Borok Nekouz, Jaroslavl.
(Zoology—Classification)

VAYNSHTEYN, B.A.

New species and subspecies of the genus Typhlodromus Scheuten (Parasitiformes, Phytoseiidae) in the fauna of the U.S.S.R. Zool. zhur. 39 no.5:683-690 My '60. (MIRA 13:10)

1. Institute of Water Reservoir Biology, U.S.S.R. Academy of Sciences, Borok.

(Ticks)

VAYNSHTEYN, B. A., Doc Bio Sci - - (diss) "The Tetranychus Mites of Kazakhstan. With a Survey of the Tetranycholdea Super-Family and a Reexamination of the Tetranychidae Family," Moscow, 1960; 30 pages. (Moscow State Order of Lenin and Order of the Red Banner University imeni M. B. Lomonosov); 150 copies; price not given; list of the author's works at the end of the text. (KL 22-60, 133)

VAYNSHTEYN, B.A.

Systematic position of two spider mite species (Acariformes, Tetranychidae) and the description of two new genera and a tribe. Zool. zhur. 40 no.4:606-608 Ap '61. (MIRA 14:3)

1. Reservoir Biology Institute, U.S.S.R. Academy of Sciences (Borok, Nekouzskogo rayona Yaroslavskoy oblasti).
(Red spider)

VAYNSHTEYN, B.A.

Structure of the larvae of freshwater mites (Hydrachnellae).
Trudy Inst.biol.vnutr.vod. no.9:163-177 '65.
(MIRA 19:1)

VAYNSHTEYN, B.A.

Materials on the biology and systematics of water mites (Hydrachnellae). Report No.3: Description of some larvae of the genus Eylais Latr., 1796. Trudy Inst. biol. vnutr. vod no.6:159-170 '63. (MIRA 18:1)

VAYNSHTEYN, B.A.

Some problems of the evolution of the super family tetranychoidea (Acariformes). Zool. zhur. 42 no.11:1631-1637 '63.
(MIRA 17:2)

1. Institute of Inland Water Biology, Academy of Sciences of U:S:S.R., Borok, Nekouz District, Yaroslavl region.

VAYNSHTEYN, B.A.

New species of mites of the genus Typhlodromus (Parasitiformes, Phytoseiidae) in Georgia. Trudy Inst. zool. AN Gruz. SSR 18: 153-162 '61. (MIRA 15:6)

(Georgia--Typhlodromus)

Vaynshteyn, B.G.

OSTROUSHKO, Ivan Antonovich, VAYNSHTEYN, B.G., gorny inzhener, retsenzent; RIMSHA, G.B., gornyy inzhener, retsenzent; VOZDVIZHENSKIY, B.I., redaktor; PARTSEVSKIY, V.N., redaktor; TARASENKO, Z.K., tekhnicheskiy redaktor.

[Core-drilling mine sampling holes] Burenie kolonkovykh minnykh skvazhin. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po chernoi i tsetnoi metallurgii, 1956. 310 p. (MLRA 9:6)
(Boring)

VAYNSHTEYN, B.G.

Investigation of mining methods for iron quartzites from the Kursk magnetic anomaly. Gor.zhur.no.11:26-29 N '56. (MLRA 10:1)

1. Glavnyy inzhener kombinata Kurskoy magnitnoy anomalii rudy.
(Kursk Province--Mining engineering)
(Quartzite) (Iron ores)

VAYNSHTEYN, B G

14(5)
AUTHOR: Vaynshteyn, B.G., Mining Engineer SOV/127-59-2-7/21

TITLE: On the Construction of the Mikhaylovskiy Iron-Ore Combine (Stroitel'stvo Mikhaylovskogo zhelezorudnogo kombinata)

PERIODICAL: Gornyy zhurnal, 1959, Nr 2, pp 34-37 (USSR)

ABSTRACT: The present stage of operations on the Mikhaylovskoye iron-ore deposits is described, and proposals aimed at improving the operations are made (the installation of a belt conveyer system, etc). The Mikhaylovskiy area, whose estimated high-grade ore-deposit volume is 550 million tons, is subdivided into 4 subareas: Vereteninskaya, Ostapovskaya, Kurbakinskaya and Ryasnikovskaya. The ore field of the Vereteninskaya subarea, lying between the rivers Rechitsa and Chern', with 85% of all the examined deposits of the area, is 7 km long, about 2.5 km wide and about 13 m thick. Its estimated volume is 431 million tons of ore (B, C_1 and C_2 categories).

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On the Construction of the Mikhaylovskiy Iron-Ore Combine

It is covered by 25 to 80 meters of useless rock and is comparatively dry. A 3 km^2 area can be exploited without drainage. Seventy % of the deposits are rich, porous martite varieties while the rest contains about 56% iron. The first part of the Mikhaylovskiy iron-ore combine has been started by the Kurskiy Sovnarkhoz. The yearly capacity of the new combine should be 2.5 million tons of ore. Actual exploitation will begin in 1960. The branch RR leading from Arbuzovo (on the RR line Moscow-Kiyev) to Mikhayl. mine was completed in November 1958. The branch power transmission line conducting power from the TETs of Kursk to the site is also finished. The first temporary installations, as well as living quarters, are ready. The mean thickness of the useless Mikhaylovskoye stratum is 60 m. The removal of the rock will be carried out on four benches, each being 12 to 20 m high. The excavators working on the site are of the EKG-4, ESh-4/40 and DS-1,000

On the Construction of the Mikhaylovskiy Iron-Ore Combine

types. The ESh-4/40 excavator will be replaced by a chain-scoop excavator and the EKG-4 machine by a rotary excavator, all joined to the belt conveyer and the swing chute. The belt-conveyer installation will have a capacity of 40,000 to 50,000 cu m per 24 hours. The start of uninterrupted-line operations is scheduled for 1959 or 1960. Since there are no Soviet plants producing rotary excavators and swing chutes, the equipment (the RV-1 rotary excavator and swing chute of the OSh-1 type) will be manufactured in the workshops of the mine itself. The KRU-350 belt conveyers are produced by the Aleksandrovskiy plant. . The capacity of the RV-1 excavator will be 15,000 cu m per 24 hours. The 2nd development period of the iron-ore combine will be started in 1964. Total ore-output in 1965 will be 4.5 million tons. The Kurgakinskoye deposit, , which is now being examined, lies about 2 km East from the Mikhaylovskaya open pit. . Its estimated volume is 150 million tons.

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On the Construction of the Mikhaylovskiy Iron-Ore Combine

Its rock layer is 80 to 180 m thick; mean thickness of the ore stratum is 11.7 m; projected capacity of the new pit is 2.5 to 3.0 million tons. Operations are start in 1964. Total amount of ferrous quartzites examined now in the Mikhaylovskiy area is more than 9 billion tons, containing 38 to 40% iron. A Metallurgical plant should be constructed in the neighborhood of L'gov. The gas pipeline leading from Shebelinka to Bryansk crosses the area not far from the Mikhaylovskoy deposits. There are 3 schematic diagrams.

ASSOCIATION: Kurskiy Sovnarkhoz

Card 4/4

VAYNSHTEYN, B.G., gorn.inzh.

The Mikhaylovka open-pit mine is in operation. Gor.zhur. no.9:3-5 S '60. (MIRA 13:9)

1. Kurskiy sovnarkhoz.
(Mikhaylovka (Kursk Province)--Iron mines and mining)
(Kursk Magnetic Anomaly)

VAYNSHTEYN, Boris Grigor'yevich. Prinimal uchastiye DOBROKHOTOV, M.N., kand.geolog.nauk. SOSEDOV, O.O., otv.red.; BYKHOVSKAYA,S.N., red.izd-va; SUKHININA, N.D., tekhn.red.; SHKLYAR, S.Ya., tekhn.red.

[Kursk Magnetic Anomaly is the largest iron ore center of the U.S.S.R.] Kurskaia magnitnaia anomaliia - krupneishaia zhelezorudnaya baza SSSR. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1961. 105 p. (MIRA 14:6)
(Kursk Magnetic Anomaly—Iron ores)

VAYNSHTEYN, B.G., gornyy inzh.; GAL'PERIN, A.M., gornyy inzh.

Shchigry phosphorite mine. Gor.zhur. no.2:10-12 F '61.
(MIRA 14:4)

1. Kurskiy sovnarkhoz (for Vanyshteyn). 2. Shchigrovskiy fosforitnyy rudnik (for Gal'perin).
(Shchigry District—Phosphorite)

VAYNSHTEYN, B.I., kand. med. nauk (Krasnovodsk); BERSHCHANSKIY, M.L. (Krasnovodsk)

Comparative evaluation of the course of penetrating corneal wounds in nonirradiated and X-irradiated rabbits receiving bicillin treatment; clinical morphological study. Vest. oft. 76 no.3:45-52 My-Je '63. (MIRA 17:2)

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~~25(5),5(1)~~

AUTHORS: Vaynshteyn, B.I., Breger, A.Kh., Syrkus, N.P.

S/064/59/000/07/002/035
B005/B123

TITLE: Computation of a Radiation-chemical Apparatus With a Strong Gamma Radiation Source for the Oxidation of Benzene to Phenol

PERIODICAL: Khimicheskaya promyshlennost', 1959, Nr 7, pp 560-565 (USSR)

ABSTRACT: A radiation-chemical process which could reach practical importance, is the direct oxidation of benzene to phenol with oxygen, in the presence of products of water radiolysis (Refs 1-3). Under certain technological conditions stated in the paper, this process becomes a chain reaction. The yield then amounts to 30-60 molecules per 100 ev absorbed energy. The technological scheme for carrying out this oxidation is described in publications (Ref 3). The authors of the present paper calculated the capacity of radiation-chemical apparatus of various constructions that work with intensive γ-rays. The computations were made for γ-sources from Co^{60} preparations with a total activity of $\sim 10^6$ g-equivalent radium or from the fuel elements of a reactor, type VVR-Ts with a thermal power of 10 Mw. The capacity of such an apparatus is computed from

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Computation of a Radiation-chemical Apparatus With a Strong Gamma Radiation Source for the Oxidation of Benzene to Phenol

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B005/B123

the formula: $Q = K \frac{wGM}{N} \eta$ (Q = capacity of apparatus in kg per hour; K = coefficient considering the dimensions of the apparatus; w = dose rate of the source of γ-radiation in watts; G = radiation-chemical yield (number of molecules per 100 ev absorbed energy); M = molecular weight of the product in g/mol; N = Avogadro number; η efficiency of the radiation-chemical apparatus (proportion of dose rate of γ-radiation that is absorbed by the chemical system, to the dose rate that is supplied by the source). For phenol it results for G = 30: $Q = 1.05 \cdot 10^{-3} w \eta$. The computations made are described in detail. Detailed data of the construction of radiation-chemical apparatus and the optimum dimensions of the radiation source are given. Figure 1 shows schematic cross sections through some possible variants of a radiation-chemical apparatus for the oxidation of benzene to phenol. Table 1 gives the working characteristics for various variants of such radiation-chemical apparatus, where Co^{60}-preparations or the fuel elements of the VVR-Ts reactor are used as radiation source. Table 2 shows the

Card 2/3

Computation of a Radiation-chemical Apparatus With a Strong Gamma Radiation Source for the Oxidation of Benzene to Phenol

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accessible doses of γ-radiation of a source consisting of all fuel elements of the VVR-Ts reactor. Table 3 shows the relations between the capacity Q and $T = \bar{t}$ (T = working time of the fuel elements in the reactor, $\bar{t}$ = time of cooling). According to calculations of the authors the yearly production of phenol in one of the apparatus described, with a radiation-chemical yield of G = 60 molecules per 100 ev in a reactor with the thermal power of 1000 Mw, amounts to about 10,000 t. In the present paper a previous article of the authors is referred to that was submitted to the konferentsiya po mirnomu ispol'zovaniyu atomnoy energii (Conference on the Peaceful Uses of Atomic Energy), held in Tashkent from September 28 to October 3, 1959. There are 8 figures, 3 tables, and 8 references, 7 of which are Soviet.

Card 3/3

AUTHORS: Syrkus, N. P., Breger, A. Kh., Vaynshteyn, B. I.

S/064/59/000/08/001/021
B115/B017

TITLE: The Fundamental Technological Characteristics of Apparatus for Carrying out Radiochemical Processes (Mainly for the Polymerization of Ethylene), on an Industrial Scale

PERIODICAL: Khimicheskaya promyshlennost', 1959, Nr 8, pp 647-652 (USSR)

ABSTRACT: In the present paper the first attempt of a general consideration of the most important technological characteristics of a device for carrying out radiochemical processes is described by the example of a spherical apparatus. Besides, the technological characteristics of an apparatus used for radiochemical polymerization of ethylene were calculated. The efficiency of a spherical apparatus with a radius r and a monochromatic gamma radiation point source in the center of the sphere with an energy of q curies was calculated, and a formula was deduced. The method used to determine the energy of the absorbed gamma rays was employed for calculation which had been suggested at the Conference for the Peaceful Uses of Atomic Energy in Tashkent from September 28 to October 3, 1959. A diagram of the dependence of the function $[(1-\varepsilon)\mu]^{\alpha}$. $\mathcal{H}(\mu r, \varepsilon)$ on z at different values of the parameter α (1.5, 2.0 and

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The Fundamental Technological Characteristics of Apparatus for Carrying Out Radiochemical Processes (Mainly for the Polymerization of Ethylene) on an Industrial Scale

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2.5) is given (Fig 1), where ε is a constant which depends on the conditions of the process ($0 \leq \varepsilon < 1$), γ the factor of the electron transformation, $\varkappa(\gamma r, \varepsilon) = \int_0^{\varrho} \exp[-(1-\varepsilon)\gamma \cdot \varrho]\varrho^{2\varepsilon} \cdot d\varrho$ with ϱ the distance of any point in the apparatus from the center, $z = (1-\varepsilon)\gamma r$ and $\alpha = 2\varepsilon + 1$. In the following also the efficiency of an infinitely large apparatus ($Q\infty$) with the same radiation source is computed. Also formulas for the computation of the specific efficiency and for the computation of the radius of the spherical layer is deduced. The energetic and the material useful coefficient for the apparatus given were computed, and it was found that in general the energetic useful coefficient is no unambiguous criterion for the efficiency of the apparatus. The technological characteristics of a cylindrical apparatus for radiochemical polymerization of ethylene (with Co^{60} as central radiation source) at 200 atm and 25° were then calculated. Diagrams of the distribution of the activity of the radiation dose in the apparatus (Fig 2), of the dependence of efficiency of the polymerisation apparatus with

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The Fundamental Technological Characteristics of Apparatus for Carrying out Radiochemical Processes (Mainly for the Polymerization of Ethylene) on an Industrial Scale

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gamma-ray sources of different relative activity (with respect to 1-11,500 curie Co^{60}) on the radius of the apparatus (Fig 3), of the specific and weight efficiency of the apparatus (Fig 4), and of the distribution of the useful factor in the apparatus (Fig 5) are mentioned. The curves in figure 5 show that the apparatus for radiochemical polymerization of ethylene under given polymerization conditions can be computed from the mean values of dose activity $\eta_{e.app}$ and that the method can be employed also for apparatus used for other radiochemical processes. The dependence of the efficiency of the apparatus on the full activity of the gamma radiation source W_o under exactly constant conditions is mathematically proven. There are 5 figures and 9 references, 6 of which are Soviet.

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BREGER, A.Kh.: Prinimali uchastiye: VAYNSHTEYN, B.I.; SYRKUS, N.P.; RYABUKHIN, Yu.S.; KOZLOV, V.A.. KARPOV, V.L., red.; TARAKHOVSKAYA, N.K., red.; YAZLOVSKAYA, E., tekhn.red.

[Nuclear radiation sources and their application to radiochemical processes] Istochniki iadernykh izluchenii i ikh primenenie v radiatsionno-khimicheskikh protsessakh. Pod red. V.L. Karpova. Moskva, Vses.in-t nauchn.i tekhn.informatsii, 1960. 128 p. (MIRA 13:10)
(Radiation) (Radiochemistry)

VAYNSHTEYN, B.I.

~~[illegible] EV, G. D.~~

PHASE I BOOK EXPLOITATION SOV/5410

[illegible]skaya konferentsiya po mirnomu ispol'zovaniyu atomnoy [illegible]ii, Tashkent, 1959.

[illegible] (Transactions of the Tashkent Conference on the Peaceful [illegible]es of Atomic Energy) v. 2. Tashkent, Izd-vo AN UzSSR, 1960. [illegible]0 p. Errata slip inserted. 1,500 copies printed.

[illegible]nsoring Agency: Akademiya nauk Uzbekskoy SSR.

Responsible Ed.: S. V. Starodubtsev, Academician, Academy of Sciences Uzbek SSR. Editorial Board: A. A. Abdullayev, Candidate of Physics and Mathematics; D. M. Abdurasulov, Doctor of Medical Sciences; U. A. Arifov, Academician, Academy of Sciences Uzbek SSR; A. A. Borodulina, Candidate of Biological Sciences; V. N. Ivashev; G. S. Ikramova; A. Ye. Kiv; Ye. N. Lobanov, Candidate of Physics and Mathematics; A. I. Nikolayev, Candidate of Medical Sciences; D. Mishanov, Candidate of Chemical Sciences; A. S. Sadykov, Corresponding Member, Academy of Sciences USSR, Academician, Academy of Sciences Uzbek SSR; Yu. N. Talanin,

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Transactions of the Tashkent (Cont.) SOV/5410

Candidate of Physics and Mathematics; Ya. Kh. Turakulov, Doctor of Biological Sciences. Ed.: R. I. Khamidov; Tech. Ed.: A. G. Babakhanova.

PURPOSE : The publication is intended for scientific workers and specialists employed in enterprises where radioactive isotopes and nuclear radiation are used for research in chemical, geological, and technological fields.

COVERAGE: This collection of 133 articles represents the second volume of the Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy. The individual articles deal with a wide range of problems in the field of nuclear radiation, including: production and chemical analysis of radioactive isotopes; investigation of the kinetics of chemical reactions by means of isotopes; application of spectral analysis for the manufacturing of radioactive preparations; radioactive methods for determining the content of elements in the rocks; and an analysis of methods for obtaining pure substances. Certain

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instruments used, such as automatic regulators, flowmeters, level gauges, and high-sensitivity gamma-relays, are described. No personalities are mentioned. References follow individual articles.

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S/138/60/000/004/004/008
A051/A029

AUTHORS: Breger, A.Kh., Kaplunov, M.Ya., Vaynshteyn, B.I., Vizel', Ya.M.

TITLE: A Comparative Evaluation of the Effectiveness of Various Sources of Nuclear Emissions for the Vulcanization Process of Tires by Irradiation

Vol 19

PERIODICAL: Kauchuk i Rezina, 1960, No. 4, pp. 17 - 22

TEXT: The use of nuclear energy has increased in chemical technology (Refs. 1 - 3, 5 - 7, 14). Rubber acquires new properties in vulcanization by irradiation. These vulcanizates have an elevated resistance to thermal and thermo-acidic aging, an elevated thermomechanical resistance and high resistance to repeated deformations. The importance of selecting the proper source of radiation in the radiation vulcanization of tires is stressed. The geometry of the emitter must be determined and the effectiveness of the different radiation sources must be evaluated. The purpose of this article was to solve these problems in order to apply the process of vulcanization by ir-

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S/138/60/000/004/004/008
A051/A029

A Comparative Evaluation of the Effectiveness of Various Sources of Nuclear Emissions for the Vulcanization Process of Tires by Irradiation

radiation to the tubeless 6.70 - 15 tire of the "Volga" automobile. The following problems were investigated: 1) an evaluation of the field uniformity of the doses on the cross-section of the tread, 2) a computation of the radiation time at a given energy output of the emitter or estimating the energy output of the emitter according to the given vulcanization period (the energy of the emitter is taken to be the γ-emission energy), 3) determining the power efficiency factor in each individual case of the system's γ-emission efficiency output. The average integral dose of radiation needed for the vulcanization process was taken to be $25 \cdot 10^6$r (Refs. 6 - 8). Two types of emission sources were investigated, namely, a circulating contour (nuclear reactor-radiation installation) where the γ-emitter is an indium-gallium alloy with 16.5 atomic % of indium), and heat-emitting wastes of a 88P-II (VVR-Ts)-type nuclear reactor with a heat capacity of 10 Mw. Each source investigated is described in detail. As a result of the investigations several conclusions are drawn: 1) The comparative evaluation of the two sources for radiation vulcanization of tires showed that a circulating contour power efficiency factor ($\eta \sim 2.0\%$) had greater possibilities as a γ-emitter. There were

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A Comparative Evaluation of the Effectiveness of Various Sources of Nuclear Emissions for the Vulcanization Process of Tires by Irradiation

several technical difficulties, however, as compared to the waste product source. 2) When using waste products of a VVR - Ts type reactor, it was more expedient to design the emitter in the form of two parallel planes ($\eta \sim$ $\sim$0,3%). If the emitter is built in the form of 2 co-axial cylinders, $\eta \sim$0.2%. 3) The power efficiency factor of the γ-emission for the investigated cases can be increased if a special shape of the press-die is developed and a structural material chosen which ensures minimum absorption of the γ-emission. 4) The data obtained can be used as the basis for computing the apparatus of radiation vulcanization for test batches of tires. There are 5 diagrams and 15 references: 12 Soviet and 3 English.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. Karpova, Nauchno-issledovatel'skiy institut shinnoy promyshlennosti, Moskovskiy institut khimicheskogo mashinostroyeniya (Scientific Physical-Chemical Research Institute imeni Karpov Scientific Research Institute of the Tire Industry, Moscow Institute of Chemical Engineering)

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S/081/61/000/022/004/076
B102/B108

AUTHORS: Breger, A. Kh., Vaynshteyn, B. I., Guzey, L. S., Ryabukhin, Yu. S., Syrkus, N. P.

TITLE: Gamma-radiation absorption in macrosystems

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1961, 37, abstract 22B254 (Tr. Tashkentsk. konferentsii po mirn. ispol'zovaniyu atomn. energii. Tashkent, AN UzSSR, v. 2, 1960, 123-132)

TEXT: The gamma radiation energy absorbed by an object is determined as the difference between the γ-radiation energy flux from the source and γ-energy flux passing through the object's surface. An accumulation factor for the energy flux and a useful coefficient of the source with respect to γ-radiation are defined. The energy from Co^{60}(~2 g-equ. Ra) absorbed by the object was measured by means of a chemical dosimeter - a ferrosulfate solution filled into volumes of various shapes. The γ-radiation energy flux was also measured by the ferrosulfate method. It was shown that if the source was placed in the center of a cylinder the absorbed energy is twice as high as that when the source is located at the

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Gamma-radiation absorption ...

bottom plane of a cylinder which is half as high. The accumulation factors were calculated by comparing the experimental and theoretical results without taking multiple scattering into account. γ-radiation absorption in volumes of complex shape was studied at various positions of the sources. [Abstracter's note: Complete translation.]

Card 2/2

80084
S/020/60/131/06/22/071
B014/B007

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AUTHORS: Breger, A. Kh., Vaynshteyn, B. I., Gnzey, L. S., Ryabukhin, Yu. S., Syrkus, N. P.

TITLE: The Absorption of Gamma-emission[19] in Macrosystems From a Point Source

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 131, No. 6, pp. 1308 - 1311

TEXT: The authors define the absorbed power of γ-emission with $Q_a = \Phi_o - (\Phi_{surf} + \Phi_{scatt})$, where Φ_o is the total power of the energy flux of the γ-emission of the source, and Φ_{surf} - the power of the flux leaving the absorbing body, and Φ_{scatt} - the power of the scattered flux. The factor of the accumulation B_Φ of the integral energy flux of the γ-emission is defined by $B_\Phi = 1 + \Phi_{scatt}/\Phi_{surf}$ and by the notations $Q_a/\Phi_o = \eta$; $\Phi_{surf}/\Phi_o = \varphi_{surf}$ is obtained for the efficiency $\eta = 1 - B_\Phi \varphi_{surf}$. For a spherical absorbing body in the center of which the source is located, η may easily be written down. For a cylindrical body (Fig. 1) the

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The Absorption of Gamma-emission in Macrosystems From a Point Source

authors derive formula (4) for φ_{surf}. Determination of B_Φ was carried out in a test series, in which dosimetric solutions were located in cylindrical containers with different radii. In a copper tube, which was fitted to the cylinder axis, the γ-source could be moved from without. Measured values for five different cylinder diameters within the range of from 3 to 12 cm are graphically represented in Fig. 3. It is found that the relation $B_\Phi = F(h/r, \mu r)$ holds, where h denotes the height of the cylinder calculated from the source, r - the radius of the cylinder, and μ the coefficient of the linear weakening of the γ-emission in the substance (Fig. 3). In this way it was possible to determine not only the amount of the absorbed energy, but also the above introduced factor of the accumulation of the integral energy flux. This factor may be used also in investigations of the absorbed energy which are carried out with other configurations of the source or of the absorbing object. The authors thank N. A. Krasnoshchekova and Ye. D. Kalmykova for their help in performing this work. There are 4 figures and 12 references, 9 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Scientific Research Institute of Physics and

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80084
The Absorption of Gamma-emission in Macrosystems From a Point Source S/020/60/131/06/22/071
B014/B007

Chemistry imeni L. Ya. Karpov)

PRESENTED: December 17, 1959, by V. A. Kargin, Academician

SUBMITTED: December 16, 1959

Card 3/3

VAYNSHTEYN, B.I.

3

S/081/62/000/003/085/090
B 162/B101

11.2211
15.9300

AUTHORS: Dogadkin, B. A., Tarasova, Z. N., Kaplunov, M. Ya., Breger, A. Kh., Kanarcha, L. M., Vaynshteyn, B. I., Vizel', Ya. M., Karpov, V. L.

TITLE: Intensification of the process of radiation vulcanization and technical principles of an experimental installation for radiation vulcanisation of tyres

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 3, 1962, 595 - 596, abstract 3P275 (Sb. "Radioakt. izotopy i yadern. izlucheniya v nar. kh-ve SSSR, v. I", M., Gostoptekhizdat, 1961, 184 - 196)

TEXT: An investigation was made into the effect of medium (air and vacuum), temperature (from -196 to 100°C), sensitizers and inhibitors on radiation vulcanization under the action of Co^{60} γ - radiation of butadiene, butadiene-styrene and natural rubber. The degree of cross-linking in air is higher than in vacuum. In the presence of 2 % phenyl - β - naphthylamine the radiation-chemical yield of cross-links per 100 ev of absorbed

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S/081/62/000/003/085/090
B162/B101

Intensification of the process ...

energy drops by half for butadiene rubber in vacuum. The decrease in non-saturation is only partially explained by cross-linking and oxidation, and in the main this phenomenon is probably connected with the formation of intra-molecular rings. The cross-linking at different temperatures depends to a large extent on the structure of the rubber. Aliphatic polyhalides reduce the required radiation dose by half (to 25 Mr) and ensure the production of rubbers with a static strength equal to the strength of the best sulphur vulcanized rubbers. Vulcanization of rubbers containing carboxyl by the combined action of metal oxides and nuclear radiation (dose 10 Mr) gives vulcanized rubbers with high thermal stability and high strength properties. An investigation was made into the kinetics of the addition of styrene and 2,5 -dichlorostyrene to natural rubber and butadiene-styrene rubber and to mixtures of these with channel black with irradiation in Ar. An acceleration of vulcanization was observed in the presence of these monomers and vulcanized rubbers were obtained which possessed high thermomechanical stability and strength. The technical principles of a technological process for an experimental installation for radiation vulcanization of tyres are examined. Different types of γ-radiation sources were compared: radiation In-Ga loop of a nuclear reactor,

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B162/B101

Intensification of the process ...

spent-fuel assemblies, Co^{60} and different types of irradiators. A scheme is proposed for a technological process for an experimental installation with spent-fuel assemblies. [Abstracter's note: Complete translation]

Card 3/3

VAYNSHTEYN, B. I.

4

3P62L
S/081/62/000/009/019/075
B158/B101

5.4600

AUTHORS: Topchiyev, A. V., Polak, L. S., Chernyak, N. Ya., Glushnev, V. Ye., Glazunov, P. Ya., Vereshchinskiy, I. V., Syrkus, N. P., Breger, A. Kh., Vaynshteyn, B. I.

TITLE: Radiation-heat cracking of hydrocarbons

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 9, 1962, 74 - 75, abstract 9B515 (Sb. "Radioakt. izotopy i ikh primen. izlucheniya v nar. kh-ve SSSR. v. I". M., Gostoptekhizdat, 1961, 206-210)

TEXT: The low overall yield of radiolysis products from hydrocarbons at room temperature points to the absence of a chain reaction at that temperature. To examine the possibilities of a chain reaction in radiation cracking, n-heptane was irradiated by Co^{60} γ-rays at high temperatures. The samples were irradiated in 15 ml bulbs made of molybdenum glass with a wall thickness of ~1 mm. The amount of liquid heptane was 0.25 ml and the pressure in the ampoules on vaporization 2.5 T/273 atm. To prevent local preheating of the walls, the bulb was rotated twice a second. The

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S/081/62/000/009/019/075
B158/B101

Radiation-heat cracking of hydrocarbons

radiation dose output calculated on 1 ml of liquid n-heptane was $2 \cdot 10^{13}$ Mev/sec. It is shown that radiation-heat cracking of n-heptane occurs at considerably lower temperatures than purely thermal cracking which needs a temperature of ~500°C. The yield of liquid unsaturated hydrocarbons from radiation-heat cracking increases from 1.8 at room temperature to 340 at 450°C. The total radiation-chemical yield of low molecular hydrocarbons is 2000 at 400°C, being therefore ~10^3 times as great compared with the radiation-chemical yield of the same products at 200°C. By combining the radiation effect with temperature it is possible to obtain products which offer industrial interest at levels of yield which would be acceptable in practice. Possible sources of radiation for radiation-heat cracking are considered. [Abstracter's note: Complete translation.]

Card 2/2

VAYNSHTEYN, B.I.; BREGER, A.Kh.; SYRKUS, N.P.

Spent fuel elements as sources of gamma rays in radiochemical apparatus. Khim.prom. no.9:651-652 S '62. (MIRA 15:11)
(Gamma rays) (Radiochemistry)

S/138/62/000/012/009/010
A051/A126

AUTHORS: Khozak, V. K., Vaynshteyn, B. I., Breger, A. Kh., Kaplunov, M. Ya., Syrkus, N. P.

TITLE: Calculations of a radio-chemical equipment emitter for tire vulcanization using gamma radiation of spent heat-emitting sectors from a nuclear energy reactor.

PERIODICAL: Kauchuk i rezina, no. 12, 1962, 26 - 29

TEXT: Physical calculations were carried out on an emitter for radio-vulcanization of tires, using as the gamma source spent heat-emitting sectors, TBC (TVS), of a nuclear energy reactor. The efficiency coefficient (e.c.) of the γ-emitter is about 1% (at self-absorption in TVS - 60%). The use of various heat-emitting elements instead of TVS increases the equipment output by about 5 times. Using the TVS as the gamma source, which is the "waste product" of the reactor, increases the economic efficiency of the nuclear energy reactor. The calculations are based on the use of the TVS in the nuclear energy reactor with a thermal power of 760 Mw. The emitter chosen consisted of surfaces composed

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of TVS. Over a period of 180 days, the average activity of the emitter was found to be $\sim 10^7$ g·equiv. radium. Mathematical calculations showed that at a permissible non-uniformity of the field of dosages of ±15%, the ratio of the average absorbed dosage for the characteristic points to the lowest dosage absorbed is $\frac{D_{aver}}{D_{min}} = 1.10 \div 1.15$. The average power of the absorbed dosage during the working time of one series of TVS (180 days) was found to be 170 rad/sec. Calculations using heat-emitting elements as gamma source formed in the disassembly of the TVS showed that in this case the e.c. for gamma emission can be increased by about 5 times which is explained by the considerable drop on the self-absorption of the gamma-emitting sources. There are 5 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti i nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Scientific Research Institute of the Tire Industry and Scientific and Research Physico-Chemical Institute, im. L. Ya. Karpov)

L 12421-63 EWT(m)/BDS AFFTC/ASD

ACCESSION NR: AP3001414 S/0020/63/150/004/0866/0869

63
57

AUTHOR: Breger, A. Kh.; El*tekov, V. A.; Terent*yev, B. M.; Vaynshteyn, B. I.; Cyrkus, N. P.; Krasnoshchekova, N. A.; Osipov, V. P.; Gol*din, V. A.

TITLE: Absorption of Gamma-radiation energy in macrosystems.

SOURCE: AN SSSR. Doklady, v. 150, no. 4, 1963, 866-869

TOPIC TAGS: absorption of energy of Gamma-radiation, Type K-60000 apparatus

ABSTRACT: The energy coefficient of net efficiency of Gamma-radiation, and the value of the cumulative factor of integral current capacity of Gamma-radiation were determined for model apparatus of heat exchanger and tubular, still-type pipe. These determinations were obtained by three non-related methods: statistical method of investigation by an electronic computer, experimental method, and calculation by a semiempirical method. The results based on 300 samples are quire representative. The life span of a single quantum for the heat exchanger was found to be 4 sec. and for the still-type pipe, it was 2 sec. Calculations were also made for other values of energy coefficients of net efficiency. The integral absorption capacity for the given models were determined experimentally by ferrosulfate dosimetry method. The satisfactory agreement of the results

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ACCESSION NR: AP3001414

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with all three methods confirms the validity of the program and the methods of calculation. A possibility exists for a tangible method of solution of the problem for an optimum construction of an apparatus and the optimum number and activity of the radiation source. "The authors express their gratitude to Voropayev, Yu. V., Ratov, A. B., Kasatkin, V. M., Kalmy*kova, Ye. D., and Shalyapin, N. K. for their help in conducting the experiments on the type K-60000 unit, as well as to Golenko, D. I. for a number of useful hints in programming this work. Orig. art. has: 2 tables, 2 graphs and 1 figure.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-Chemical Institute)

SUBMITTED: 03May62 DATE ACQ: 01Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 008 OTHER: 000

Card 2/2

VAYNSHTEYN, B.I.

Method of computing the integral absorbed power of gamma radiation in macrosystems. Dokl. AN SSSR 154 no.2:411-414 Ja'64. (MIRA 17:2)

1. Fiziko-khimicheskiy institut im. L.Ya. Karpova. Predstavleno akademikom S.S. Medvedevym.

L 10754-67 EWT(1)/EWP(m)/EWT(m) IJP(c) WW/JW/WB

ACC NR: AR6016451 SOURCE CODE: UR/0124/65/000/012/B028/B028

39

AUTHOR: Shaparenko, B. A.; Vaynshteyn, B. I.; Sumskoy, P. Ye.

TITLE: On measurement of some parameters which characterize an explosion

SOURCE: Ref. zh. Mekhanika, Abs. 12B196

REF SOURCE: Tr. Gos. Makeyevsk. n.-i. in-ta po bezopasnosti rabot v gorn. prom-sti, v. 16, 1965, 345-351

TOPIC TAGS: chemical explosion, explosive charge, sound wave

ABSTRACT: Acoustic waves and pressure drop during detonation of explosive charges were studied. An MD-37-B moving-conductor microphone was used as the sonic intensity pick-up. The emf induced in the microphone by the sound wave was recorded on an MPO-2 magnetic oscillograph. The measurements were made in an experimental explosion chamber and in an experimental shaft. PZhV-20 ammonite was used as the explosive. In conducting the experiments, the sonic intensity and pressure drop from detonation of two explosive charges were recorded in the explosion chamber while these same parameters were determined in the shaft for simultaneous explosion of two concentrated explosive charges weighing 0.652 kg each. Resultant data are given for loudness level and pressure drop at various distances between the point of explosion and the microphone. V. Baron. [Translation of abstract]

SUB CODE: 19

Card 1/1 bjp

AVERBUKH, B.S.; ABRAMOVA, L.V.; BREGER, A.KH.; VAYNSHTEYN, B.I.; GOL'DIN, V.A.; KOCHESHKOV, K.A.; SYRKUS, N.P.; SHALYAPIN, N.K.; SHEVERDINA, N.I.

Determination of the optimum conditions for the reaction of radiation-chemical synthesis of dibutyltin dibromide. Zhur. fiz. khim. 38 no.10: 2445-2448 O '64. (MIRA 18:2)

1. Fiziko-khimicheskiy institut imeni L.Ya. Karpova.

GALADZHIY, F.M.; ZENIN, V.N.; VAYNSHETYN, B.I.

Improving the methods of measuring the detonation velocity. Vzryv. delo no.52/9:108-114 '63. (MIRA 17:12)

1. Makeyevskiy nauchno-issledovatel'skiy institut po bezopasnosti truda v gornoy promyshlennosti.

ACCESSION NR: AP4012181 S/0191/64/000/002/0003/0006

AURHORS: Abkin, A. D.; Auer, A. L.; Breger, A. Kh.; Vaynshteyn, B. I.; Voropayev, Yu. V.; Gol'din, V. A.; Gromov, V. F.; Osipov, V. B.; Sy*rkus, N. P.; Ushakov, V. D.; Khomikovskiy, P. M.; Tsingister, V. A.; Chikin, Yu. A.

TITLE: Radiation polymerization of ethylene in enlarged laboratory apparatus.

SOURCE: Plasticheskiye massy*, no. 2, 1964, 3-6

TOPIC TAGS: ethylene, radiation polymerization, reactor design, reactor surface area, reaction rate, polymer yield, reactor temperature field

ABSTRACT: Radiation polymerization of ethylene was conducted in laboratory reactors of 1-2 liter capacity (fig. 1 & 2). Based on tolerances admitted in this work, it was found that the temperature field can be calculated with sufficient accuracy. Comparison of reaction rates and yield of ethylene polymer shows that these factors are independent of the specific surface of the reaction space. Thus

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ACCESSION NR: AP4012181

commercial scale apparatus can be designed by estimating the process rate and yield dependence on pressure, temperature and dosage rate without concern for specific surface area of the reactor. Orig. art. has: 1 Table and 5 Figures

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 26Feb64 ENCL: 02

SUB CODE: MA NR REF SOV: 005 OTHER: 003

Card 2/4

ACCESSION NR: AP4012093 S/0020/64/154/002/0411/0414

AUTHOR: Vaynshteyn, B. I.

TITLE: Method of calculating the integral absorbed power of gamma-radiation in macrosystems.

SOURCE: AN SSSR. Doklady*, v. 154, no. 2, 1964, 411-414

TOPIC TAGS: gamma-radiation, multiple scattering, point source, linear source, macrosystem Monte Carlo method, primary radiation, attenuated radiation

ABSTRACT: A new method of calculating the integral absorbed γ-radiation power in any macrosystem has been proposed. This method applies to the energy efficiency of a sphere, that is in the case of an isotropic point source of gamma-radiation lying in the center of an absorbing sphere with radius R (in centimeters). It has been shown that the energy efficiency can be calculated by the following formula

$$\eta = 1 - B_j j_r$$

where B_j is the accumulation factor of the integral gamma-radiation

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ACCESSION NR: AP4012093

energy emerging from the surface of the macrosystem; η is the energy efficiency of the macrosystem, according to the gamma-radiation, and j_n the relative capacity of the primary attenuated gamma-radiation. The calculation of the energy efficiency for various macrosystems with a point source of gamma-radiation was compared to the calculation of the same magnitude by the statistical test (Monte Carlo) method, and the resulting similarity serves to confirm the correctness of the proposed new calculation method outlined at the outset of this article.

"The author takes this opportunity to express his gratitude to A. Kh. Breger, N. P. Syrkus, V. A. El'tekov and B. M. Terent'yev for their fruitful discussion of this work, and to S. I. Berestetskaya for the assistance in the numerical calculations and for putting the entire project into shape."

Orig. art. has: 3 Figures and 15 Formulas.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (The L. Ya. Karpov physico-chemical institute)

Sub: 9 Sep 63

Card 2/3

ACCESSION NR: AP4017164 S/0138/64/000/002/0020/0023

AUTHORS: Khozak, V. K.; Vaynshteyn, B. I.; Krasnoshchekova, N. A.; Breger, A. Kh.; Kaplunov, M. Ya.; Syrkus, N. P.

TITLE: Design of a setup for radiation vulcanization of tires with the use of Co^{60} Gamma radiation

SOURCE: Kauchuk i rezina, no. 2, 1964, 20-23

TOPIC TAGS: radiation vulcanization, tire vulcanization, cobalt 60, Gamma radiation, biplanar radiator, efficiency

ABSTRACT: The authors have designed three variants of a setup to effect radiation vulcanization of tires (260-20 and 6.70-15) with Co^{60} Gamma radiation. The variants were: 1) a setup with one biplanar radiator of constant size (130 x 130 cm, 46 cm apart); 2) a setup with one biplanar radiator of different size for each (same as 1 for the 260-20 tire; 100 x 100 cm, 40 cm apart for the 6.70-15 tire); and 3) a setup with two biplanar radiators of constant size for each (the size of 1 for the 260-20 tire; the size of the second radiator in 2 for the 6.70-15 tire). The efficiency of each variant was computed according to the formula $\eta = \frac{100\ W_{abs}^{min}}{W_0}$

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ACCESSION NR: AP4017164

where W_0 = the power of the gamma-ray source and $W_{abs}^{min} = P_{min}vd$ (P_{min} is the minimal absorbed radiation dose, v is the volume of the irradiated object, and d is the density of the irradiated object). The efficiency of all three variants for the 260-20 tire proved to be 2.8. For the 6.70-15 tire, the efficiency of the first variant was 0.7, for the second and third, 1.3. The authors' computations have shown that for the duration of vulcanization adopted (22 hours for the 260-20 tire and 19 hours for the 6.70-15 tire), it was necessary to have a radiator with a total activity of $\sim 10^6$ gram-equivalents of radium. The use of a press form of aluminum alloy with walls no thicker than 15 mm permitted the productivity of the setup (with the activity indicated) to be almost doubled. Orig. art. has: 1 figure, 1 table, and 2 formulas.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Scientific Research Physical-Chemical Institute); Nauchno-issledovatel'skiy institut shinnoy promy*shlennosti (Scientific Research Institute of the Tire Industry)

SUBMITTED: 00 DATE ACQ: 23Mar64 ENCL: 00

SUB CODE: MA NO REF SOV: 005 OTHER: 002

Card 2/2

KARPOV, V.L.; BREGER, A.Kh.; YEROSHOV, M.Ye.; DROZDOV, V.Ye.; LISOV, G.N.; STOYENKO, S.G.; TORGOVITSKIY, D.M.; VAYNSHTEYN, B.I.; SYRKUS, N.P.

Large-scale radiation-chemistry plant with irradiator made from spent nuclear fuels. Atom. energ. 15 no.4:302-308 O '63. (MIRA 16:10)

VAYNSHTEYN, B. I.:

VAYNSHTEYN, B. I.: "Penicillin in the treatment of phlyctenular inflammation of the eyes." L'vov State Medical Inst. L'vov, 1956. (DISSERTATION for the Degree of Candidate in Medical Science.)

So: Knizhnaya Letopis', No. 18, 1956.

VAYNSHTEYN, B.I., vrach (Krasnovodsk)

Anti-inflammatory effect of penicillin in anaphylactic kerato-conjunctivitis. Zdrav.Turk. 2 no.6:17-21 N-D '58. (MIRA 16:3)

(KERATOCONJUNCTIVITIS) (PENICILLIN)

VAYNSHTEYN, B.I.

Surgical treatment of stenosis of the lacrimal points and the external third of the lower lacrimal canal. Trudy Turk.nauch.-issl.trakh.inst. 6:157-159 '60. (MIRA 15:11)
(LACRIMAL ORGANS--SURGERY)

VAYNSHTEYN, B.I.

Anti-inflammatory action of penicillin in experimental acute aseptic inflammation. Trudy Turk.nauch.-issl.trakh.inst. 6:153-156 '60. (MIRA 15:11)

(PENICILLIN) (EYE—INFLAMMATION)

VAYNSHTEYN, B.I.

Hollow "atraumatic" needles for external dacryocystorhinostomy. Oft. zhur. 15 no.7:440-441 '60. (MIRA 13:11)
(DACRYOCYSTORHINOSTOMY)
(SURGICAL INSTRUMENTS AND APPARATUS)

VAYNSHTEYN, B.I.

Surgical treatment of lacrimination caused by stenosis or eversion of the lower lacrimal punctum. Oft. zhur. 15 no.8:498-500 '60. (MIRA 14:1)

(LACRIMAL ORGANS—SURGERY)

VAYNSHTEYN, B.I.(Krasnovodsk)

Hollow needle for deep suturing in dacryocystorhinostomy. Oft. zhur. 16 no.3:185-186 '61. (MIRA 14:5)
(DACRYOCYSTORHINOSTOMY) (SURGICAL INSTRUMENTS AND APPARATUS)

KHOZAK, V.K.; VAYNSHTEYN, B.I.; KRASNOSHCHEKOVA, N.A.; BREGER, A.Kh.; KAPLUNOV, M.Ya.; SYRKUS, N.P.

Design of a system for radiation vulcanization of tires by means of γ rays of Co^{60}. Kauch. i rez. 23 no.2:20-23 F '64. (MIRA 17:3)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L.Ya. Karpova i Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.

VAYNSHTEYN, B. K. PA76T93

USSR/Physics Jun 1948
Crystallography
X-Ray Analysis

"Electronographic Determination of the Structure of $BaCl_2$," B. K. Vaynshteyn, Inst of Cryst, Acad Sci USSR, 3 pp

"Dok Ak Nauk SSSR" Vol LX, No 7

Describes subject experiment, and compares results with crystallographic and roentgenographic findings. Submitted Mar 1948.

[redacted] 76T93

VAYNSHTEYN, B. K.

Crystallography

Symmetry of electron diffraction patterns. Trudy Inst.Krist., No. 5, 1949.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

VAYNSHTEYN, B. K.

USSR/Metals
Steel
Coercivity

Aug 49

"The Coercive Force of Tempered Steel ShKh15," B. K. Vaynshteyn, B. G. Livshits, 11 pp

"Zhur Tekh Fiz" Vol XIX, No 8

Established for ShKh15 that intensive increase in martensite needles after dissolving of carbides does not influence the coercivity and electrical resistance, and that residual austenite is the main factor in varying the magnetic properties. Maximum coercivity is attained for 11% austenite content.

62/49195

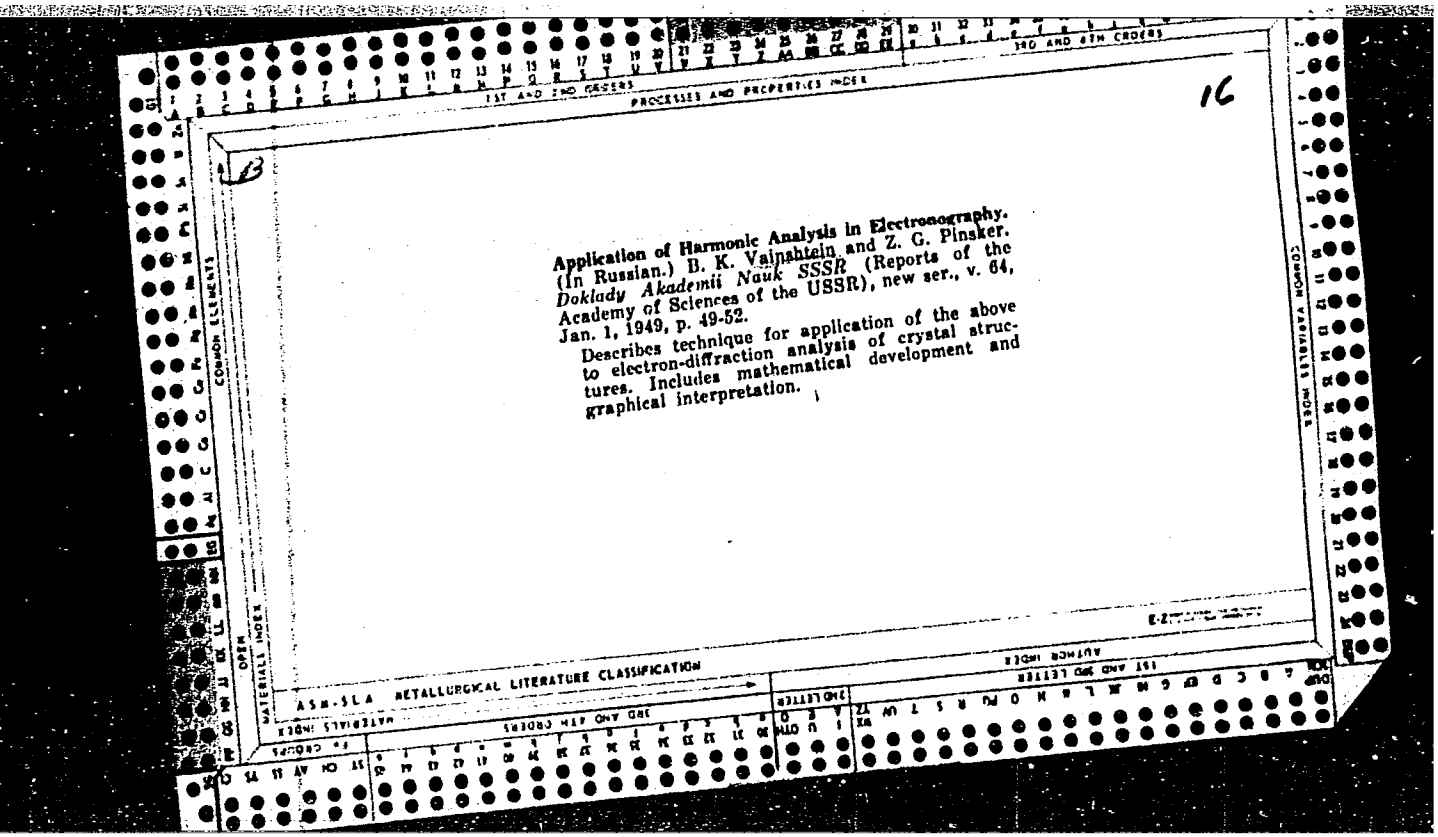
VAYNSHTEYN, B.K.

548.74

6865. Electronographic determination of the structure of barium chloride monohydrate, $BaCl_2 \cdot H_2O$. B. K. VAINSHTEIN AND Z. G. PINSKER. *Zh. Fiz. Khim.*, 23, 1058–69 (1949) *In Russian.*

Polycrystalline specimens with partial orientation were investigated by electron diffraction. The cell was found to be orthorhombic; $a = 4{\cdot}51 \pm 1$, $b = 9{\cdot}02 \pm 2$, $c = 11{\cdot}28 \pm 3$ Å (?kX) density 3·270, $Z = 4$, with an n glide $\perp c$. As $b \simeq 2a$ other symmetry elements were not determinable with certainty, but the probable space group *Pmcn* was verified by agreement of calculated and observed intensities. The x and y parameters were found by Patterson and Fourier projections on the ab plane, and the z parameters by trial and error to give the best intensity agreement. All atoms occupy the four-fold special position $\frac{1}{4}yz$ and its equivalents, with y and z parameters Ba(0·115 ± 5, 0·18 ± 1), O(0·61 ± 1, 0·18 ± 1), Cl I(0·11 ± 1, − 0·12 ± 1), Cl II(0·645 ± 10, − 0·11 ± 1).

A. J. C. WILSON



Application of Harmonic Analysis in Electronography. (In Russian.) B. K. Vainshtein and Z. G. Pinsker. *Doklady Akademii Nauk SSSR* (Reports of the Academy of Sciences of the USSR), new ser., v. 64, Jan. 1, 1949, p. 49-52.

Describes technique for application of the above to electron-diffraction analysis of crystal structures. Includes mathematical development and graphical interpretation.

VAYNSHTEYN, B.K.

Electron-diffraction determination of the structure of $CoCl_2.2H_2O$. B. K. Vainshtein. *Doklady Akad. Nauk S.S.S.R.* 68, 301–4(1949).—$CoCl_2.2H_2O$ is monoclinic, $a = 7.315 \pm 10$, $b = 8.544 \pm 10$, $c = 3.581 \pm 5$ A., $\beta = 97° 30'$, no. of mols. per unit cell = 2, space group C_{2h}^3 – $C\ 2/m$. Atom coördinates are: Co 000; $^1/_2\ ^1/_2\ 0$; Cl $x0z$; $\bar{x}0\bar{z}$; $^1/_2 + x, ^1/_2, z$; $^1/_2 - x, ^1/_2, \bar{z}$; $x = 0.245$, $z = 0.57$; H_2O 0y0; 0$\bar{y}$0; $^1/_2, ^1/_2 + y, 0$; $^1/_2, ^1/_2 - y, 0$; $y = 0.225$. Each Co atom is surrounded by 4 Cl atoms and 2 H_2O mols., forming infinite chains of octahedrons with common edges; H_2O mols. are lodged at 2 free corners of each octahedron. The interatomic distances, in A., are, in the octahedron, Co-Cl 2.53, Co-H_2O 1.93, Cl-Cl 3.58, Cl-H_2O 3.18; between neighboring chains, Cl-H_2O 3.22, 3.63, Cl-Cl 3.82. The chains are linked together only by the interaction of Cl with H_2O. One H_2O mol. attracts one Cl atom from each neighboring chain, whereas its distance to the 2nd Cl atom pair is considerably greater. The angle Co—O$\angle^{H}_{H}$ is 89°, i.e., perturbed in comparison with the 109° angle O$\angle^{H}_{H}$ in free H_2O.

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Dynamic diffraction of electrons. Z. G. Pinsker and B. K. Vainshtein. *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 14, 212-22(1950).—The reflection coeff. ρ of an electron beam is calcd. from a kinetic and a dynamic theory of diffraction. For Cu crystals $\rho_{kin.} = 0.012\%$ and $\rho_{dyn.} = 1.5\%$. The observed phenomenon of "secondary reflection" is attributed to dynamic diffraction. This phenomenon was seen on electron-diffraction pictures of Cu films contg. Cu_2O, made by vacuum deposition of Cu on NaCl crystals and subsequent annealing. Ag films contg. Ag_2O, made by the same method, also show the same phenomenon. Such reflections can also be observed by deposition (from air) of NH_4Cl on a monocryst. film of Ag; the crystals of NH_4Cl are oriented with respect to Ag crystals. The ratio of intensities $I_{(200)Cu}/I_{(200)Cu}$ is calcd. to 30% (kinetic), 47.5% (dynamic), and 42.5% (exptl.). S. Paksweer

VAYNSHTEYN, B. K. PA 165T93

USSR/Physics - Hydrogen 1 May 50
Paraffin

"Determination of the Position of Hydrogen in the Crystallic Lattice of Paraffin," B. K. Vaynshteyn, Z. G. Pinsker, Inst of Cryst, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXII, No 1, pp 53-56

Two-dimensional Fourier projection of paraffin's structure with contour lines spaced 40 conventional units apart (vertically). Also three-dimensional Fourier synthesis giving picture of distribution of potential in CH_2 group, with contours every 100 units. Tables show C-C, H-H, C-H distances inside and outside molecules. Submitted 1 Mar 50 by Acad A. N. Nesmeyanov.

165T93

CM

Determination of oblique-angle elementary cells by electronography. B. K. Vainshtein. *Doklady Akad. Nauk S.S.S.R.* **73**, 1151-4(1950). The accuracy of a new method of electron diffraction for low-symmetry crystal structures is given, with ±0.02 A. for the elementary cell dimensions, and ± about 10' for the angle β. This accuracy was realized in the detn. of the cell of monoclinic $NiC_4.2H_2O$ and kaolinite (cf. Pinsker, following abstr.). There is an essential distinction of the calcn. basis for x-ray, and electron-ray diffraction: the rotation axes are edges of the primary cell for x-ray, whereas for electron diffraction, they are axes of the reciprocal lattice. This relation is calcd. for monoclinic and triclinic symmetries, especially also for pseudo-hexagonal types as in clay minerals. W. Eitel

Electronographic study and crystal chemistry of $KPtCl_3NH_3$ and $KPtBr_3NH_3$. G. B. Bokil, B. K. Vainshtein, and A. A. Babareko. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1951, 667-73.—Preliminary detns. of the lattice consts. for $KPtCl_3NH_3.H_2O$, based on Röntgen vibrations, gave the following: $a = 20.6$, $b = 8.0$, and $c = 4.5$ A. These data agreed well with those obtained goniometrically. The Röntgenographic part of the work was stopped and the electronographic method used. For these detns. microcrystals of the order of 10^{-4}–10^{-6} cm. diam., mounted on a celluloid film, were used. During exposure the samples were placed under high vacuum. Removal of water of hydration from a compd. proceeds without substantial structure changes. The mounting of the salts on the celluloid film is accomplished by placing drops of aq. soln. (0.05%) of the salt on the films and then drying at a temp. of 60° to obtain a polycryst. picture. By slowly drying the salt under a hood for one day, samples can be obtained that correspond almost to the monocryst. MgO and NaCl were used as standards for detg. the periods. The periods of both $KPtCl_3NH_3$ and $KPtBr_3NH_3$ were detd. For establishing spatial groups and for deciphering the structures 100 reflections were used. Construction of *bc*- and *ab*-projection diagrams of interat. distances produced a preliminary model showing arrangement of Pt, K, and the orientation of the ($PtCl_3NH_3$) complex. On the basis of this model the construction of the Fourier synthesis along the *0kl* amplitude was made. This synthesis shows the positions of all atoms, among them N. To make the at. coördinates more precise, a Harker synthesis was performed along $x^1/_20$, $x00$, and $xy0$ for $x = 0.145$. Error in detg. the parameters was of the order of 0.001–0.002. The accuracy of the detns. of the at. coördinates is the same for 2-dimensional as for 3-dimensional Fourier series. Thus the flat form of the [$PtCl_3NH_3$] complex is explained.

Gladys S. Macy

VAYNSHTEYN, B.K.; GURSKAYA, G.V.

X-ray diffraction study to determine the structure of hydrochloric phenylalanine. Dokl. AN SSSR 156 no. 2:312-314 My '64. (MIRA 17:7)

1. Institut kristallografii AN SSSR. 2. Chlen-korrespondent AN SSSR (for Vaynshteyn).

VAINSHTEIN, Boris Konstantinovich; KITAYGORODSKIY, A.I., otv. red.

[X-ray diffraction on chain molecules] Difraktsiia rentgenovykh luchei na tsepnykh molekulakh. Moskva, Izd-vo AN SSSR, 1963. 371 p. (MIRA 18:9)

KISELEV, N. A.; VAYNSHTEYN, B. K.

"The structure of fowl plague virus."

report submitted to 3rd European Regional Conf, Electron Microscopy, Prague, 26 Aug-3 Sep 64.

ACCESSION NR: AP4024983 S/0070/64/009/002/0162/0166

AUTHOR: Vaynshteyn, B. K.

TITLE: The orientation factor in intensity of scattering by molecular crystals

SOURCE: Kristallografiya, v. 9, no. 2, 1964, 162-166

TOPIC TAGS: orientation, scattered light, crystal, molecular crystal, structure analysis, molecular displacement, unit cell, Fourier transform

ABSTRACT: Structural analysis of molecular crystals is commonly simplified by the fact that the structure of the constituent molecules may be more or less predicted. The task of finding a preliminary model reduces then to determination of the orientation and disposition of molecules within the cell. On the basis of a Fourier transform, the author sets up an expression for scattering intensity by molecular crystals. This expression may be divided into two components. The first depends only on the orientation of the molecule (the orientation factor). The second depends on the orientation and on the mutual disposition (displacement) of the molecules. A comparison of the first component with experimental intensities

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ACCESSION NR: AP4024983

of scattering shows that the difference between experimental value and computed value may be used for preliminary determination of molecular orientation in the unit cell without any assumptions relative to the mutual displacements of the molecules. Orig. art. has: 15 formulas.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography AN SSSR)

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Card 2/2

VAYNSHTEYN, B.K.; PINSKER, Z.G.

Electronographic investigation of paraffin. Trudy Inst.Krist., Akad. Nauk S.S.S.R. 6,163-72 '51. (MLRA 4:10)
(CA 47 no.15:7281 '53)